

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A glass for use in chemical reinforcement for use in a substrate of an information recording medium, having a composition comprising, denoted as mol%:

SiO₂ 47 to 70%

Al₂O₃ 1 to 10%

(where the total of SiO₂ and Al₂O₃ is 57 to 80 %)

CaO 2 to 25%

BaO 1 to 15%

Na₂O 1 to 10%

K₂O 0 to 15%

(where the total of Na₂O and K₂O is 3 to 16 %)

ZrO₂ 1 to 12%

MgO 0 to 10%

SrO 0 to 15%

(where the ratio of the content of CaO to the total of MgO, CaO, SrO, and BaO is greater than or equal to 0.5)

ZnO 0 to 10%

(where the total of MgO, CaO, SrO, BaO, and ZnO is 3 to 30 %)

TiO₂ 0 to 10%

and the total content of the above-stated components is greater than or equal to 95 %, and

where the glass does not comprise Li₂O.

2. (withdrawn): The glass for use in chemical reinforcement of claim 1 characterized in that the ratio of the BaO content to the total content of MgO, CaO, SrO, and BaO is greater than or equal to 0.15.

3. (withdrawn): A glass for use in chemical reinforcement for use in the substrate of an information recording medium employed in a perpendicular magnetic recording system, in which the glass exhibits the glass transition temperature is greater than or equal to 600°C.

4. (withdrawn): The glass for use in chemical reinforcement of any of claims 1 to 3 which has a Young's modulus of greater than or equal to 75 GPa.

5. (previously presented): A substrate for use in an information recording medium characterized by consisting of the glasses of claim 4 and being chemically reinforced.

6. (original): The substrate for use in an information recording medium of claim 5 which employs a chemically reinforced glass in which the bending strength following heating for two hours at 570°C to is greater than or equal to 15 kgf/mm².

7. (original): A substrate for an information recording medium characterized by consisting of a chemically reinforced glass having a glass transition temperature of greater than or equal to 600°C and exhibiting a bending strength following heating for two hours at 570°C of greater than or equal to 15 kgf/mm².

8. (previously presented): The substrate for an information recording medium of claim 5 in which, when the bending strength of the glass constituting the substrate prior to chemical reinforcement is denoted as f_b and the bending strength of the glass when maintained for two hours at a temperature T [°C] (where T denotes any temperature of from 20 to 570°C) after having been chemically reinforced is denoted as f_T , the value of $(f_T - f_b)/f_b$ is greater than or equal to 0.5.

9. (original): The substrate for use in an information recording medium of claim 8, wherein the value of $(f_{20} - f_b)/f_b$ for the bending strength f_{20} at T=20°C is greater than or equal to 1.

10. (previously presented): The substrate for use in an information recording medium of claim 5, wherein the average coefficient of linear expansion at 30 to 300°C of the glass constituting the substrate is greater than or equal to $60 \times 10^{-7} \text{K}^{-1}$.

11. (previously presented): The substrate for use in an information recording medium of claim 5 that is chemically reinforced by an ion exchange treatment in which sodium ions are replaced with potassium ions.

12. (previously presented): The substrate for use in an information recording medium of claim 5 that is employed as a substrate for an information recording medium employed in a perpendicular magnetic recording system.

13. (previously presented): An information recording medium characterized by comprising an information recording layer on the substrate for an information recording medium of claim 5.

14. (original): The information recording medium of claim 13 that is a magnetic recording medium employed in a perpendicular magnetic recording system.

15. (previously presented): The information recording medium of claim 13 characterized by being manufactured by subjecting a substrate having an information recording layer to a heat treatment at a maximum temperature of 300 to 600°C.

16. (withdrawn): A method of manufacturing an information recording medium comprising a step of forming a multilayered film comprising an information recording layer on the substrate for an information recording medium of claim 5, characterized by further comprising the heating of the substrate on which the multilayered film has been formed to a temperature of from 300 to 600°C.

17. (previously presented): The substrate for an information recording medium of claim 7 in which, when the bending strength of the glass constituting the substrate prior to

chemical reinforcement is denoted as f_b and the bending strength of the glass when maintained for two hours at a temperature T [°C] (where T denotes any temperature of from 20 to 570°C) after having been chemically reinforced is denoted as f_T , the value of $(f_T - f_b)/f_b$ is greater than or equal to 0.5.

18. (previously presented): The substrate for use in an information recording medium of claim 7, wherein the average coefficient of linear expansion at 30 to 300°C of the glass constituting the substrate is greater than or equal to 60×10^{-7} K⁻¹.

19. (previously presented): The substrate for use in an information recording medium of claim 7 that is chemically reinforced by an ion exchange treatment in which sodium ions are replaced with potassium ions.

20. (previously presented): The substrate for use in an information recording medium of claim 7 that is employed as a substrate for an information recording medium employed in a perpendicular magnetic recording system.

21. (previously presented): An information recording medium characterized by comprising an information recording layer on the substrate for an information recording medium of claim 7.

22. (previously presented): The information recording medium of claim 14 characterized by being manufactured by subjecting a substrate having an information recording layer to a heat treatment at a maximum temperature of 300 to 600°C.

23. (withdrawn): A method of manufacturing an information recording medium comprising a step of forming a multilayered film comprising an information recording layer on the substrate for an information recording medium of claim 7, characterized by further comprising the heating of the substrate on which the multilayered film has been formed to a temperature of from 300 to 600°C.

24. (new): The glass as recited in claim 1, wherein the recited amount of BaO is operative to increase the coefficient of thermal expansion and wherein BaO has less effect on Young's modulus than each of CaO and MgO.

25. (new): The glass as recited in claim 1, wherein the ratio of CaO/(MgO + CaO + SrO + BaO) is greater than or equal to 0.55.

26. (new): The glass as recited in claim 1, wherein the ratio of CaO/(MgO + CaO + SrO + BaO) is greater than or equal to 0.6.

27. (new): The glass as recited in claim 1, wherein the amount of SiO₂ is 47% to 67 %.